

FIGURE 1A

FIGURE 1A

Twist Promoter: Accn No. AC003986
Promoter Region analyzed: nts -51145 TO -51750

1 cattgactg ggttccttc caccgaagag tgaactctg cctcttcga gcaacttcg
61 aggCGtaqtc ctttgatgt tgggagCGt cagactgggt CGttgtagag gggaaagagag
121 gggccagagag gggCGagagag caggCGGgga CGcaaatcct cagccccCGC GgCGGcaac
181 Gtcttcagaa aCGccagagac ctCGGggttg ggcCGCGCGG gtttgacct tggaaactcaa
241 ggggttCGtct acctgacct tgggtggctc CGCGgttgac actttcttg gcatgcccc
301 ccacccCGCG ccacacacac cccccagccc cagcaatcca aatCGgcccc aCGgaactag
361 agggctcttg ggcGgaatga gacatcaccc actgtttaga agctgtgccc atgtgtctg
421 tcacagccca tCGGgattgg gcttgcacCG tggccagagac agtctctcc GacCGcttc
481 tgggttgcCG taaggttCGG gggCGctgccc CGcaCGctcc GgCGgggagag gaaatCGccc
541 CGCGccCGCC GgagggaaagG GaCGgggagag gaaaggggag ggcGgctaag aggCGggttg
601 aggggCGGgC CGccCGgggccc agggCGGttt tgaatgggtt gggagagacGaa atgttagac
661 cccCGaagagag ggaagtggga CGggggagag ggaatggaa gCGgaaactt tccataaaa
721 ctCGaaaaag tccctctcc tcaCGtcaag ccaatgacac tgcggcccc aaacttCGG
781 cctgcacCGga ggtataagag cctccaagtc tgcagctctc GcccaGttcc cagacacctc
841 gCGggctctg cagcacCGgc aCGtttcca ggaagcctgg CGgggtgtgC GtccagCGGt
901 ttgggCGctt cttttggga cctCGgggccc atccacacCG tccccccc ctccCGctc
961 cctccCGccc tccccCGGcG GccctccCGG CGgaagtccc tccCGtCGt cctcgtctc
1021 tctcctcCGC GggcCGcatc GccCGggcCG gCGccCGCC Gggggagagc tggCGggctg
1081 agggCGccccG ctctctctct ctggccCGgg cCGCGaagc caCGGctCGC CGctCGaag
1141 atgcagag aCGgttccag ctCGccagtct tCGCCGgCGC aCGaagcct gaggacaagc
1201 gaggagagag cagacCGgca gcaagcCGCC agCGgcaagc GCGggggaCG caagCGgCGC
1261 aCGagcagagG GcaCGGggg cCGGgccccag gggccCGgCG gaggCGgtgg gggCGtCGga
1321 ggcCGGCGaCG agcCGGgag cCGGgccccag ggcgaagCGCG gcaagaaftc tggCGggctgt
1381 ggcCGGCGGCG gCGGCGGgCG CGGCGGCGG Gggcagcagca gCGCGGCGG gagtcCGcaag
1441 tcttaCGaag agctgcagagC GcagCGggctc atggccaacCG tggCGggagCG ccaagCGcaac
1501 cagtCGctga aCGaagCGct CGccCGGctg CGgaagatca tccccacCGct gccctCGgac

1561 aagctgagca agatcagac cctcaagctg gCGgccaagt acatCGactt cctctaccag
1621 gtctccagag gCGaCGagct ggaactcaag atggcaagct gcaagctatgt ggtcaCGaag
1681 CGgctcagct aCGcctctc Ggtctggag atggagggg cctgttccat gtcCGGctcc
1741 cacCGcag CGgagcccc caccctca gcaaggCGg agaccCGgt aaggaCGCG

FIGURE 2A – FIGURE 2B

Unmethylated 193 BP

tt Tggatgggt tgttatTGT FUM (3) 21 BP AT 58

c ctaaccCAaa CAacCAacc RUM (3) 20 BP AT 60

Methylated 200 BP

FM (5) 20 BP AT 58

RM (4) 19 BP AT 58

External primers 371 BP

Gagatgaatatattatttattgtg EXT F

aacaacaatatcatctaacc EXT R

FIGURE 2C

RAR beta promoter, MSP primers ACCN NO. AF157483
Promoter region analyzed: nt -196 to nt -357

1 gtagcagaag tagtagaag tagagctgtc agagcgagga gggtctatc ttgccaag
61 ggaggaccag aattcccat ggcagctgt ttgagactgg gatgcgga aacgctgagc
121 agg gttgtctgg gacccgtcg gtagatcc ggaacgcat ccgaagcct
181 ttgcaagca ttacttga agagaact gggtcttc tgggaaccc ccgcccgc
241 tggattgccc gagcaagcct ggaaatgca atgaaacac agagcaacc ctctgagaa
301 ctccgccca gcccaccat tccactcct cccctcgag tglacaacc ctgctcgc
361 tgcagagca aatcatcag gtaccatct gggtcagcg cctgtgagg atgtagggc
421 ttttcgca gaagtatca gaagaat attacact gtcaacgaga taagaactgt
481 gtatttaata aagtcaccag gaatcgatgc caatactgtc gactccagaa gtgcttga
541 gtgggaatgt ccaagaatc tgtcaggaat gacaggaaca agaaaaagaa ggaactcg
601 aagcaagaat gcacagagag ctatgaatg acagctgagt tggacgatc cacagaga
661 atccgaaag ctcaacagga aacttcct tcaacttgc agctggtaa atacacca
721 aattcagtg ctgaccatcg agtccgactg gacctgggc tctggacaa atcagtga
781 ctggccacca agtgcattat taagatcggt gatttgcata aacgcttgc tggttcact
841 ggttgacca tcgcagacca aataacctg ctgaagccg cctgcctgga catcctgat
901 ctagaatgt gcaccaggtg taaccagaa caagacacca tgacttctc agaagcctt
961 accctaattc gaactcagat gcacaatgt gatttgtc ctctgactga cctgtgtc
1021 acccttgcca accagctcct gcccttgga atgtatgaca cagaacag cctctcagt
1081 gccatctgt taatcttgg agaccccgag gacctggag aacccgacaa agtagataag
1141 ctacaagaac cattgttga agcactaaa attatatca gaaaagacg acccagcaag
1201 cctcacatgt ttccaagat cttaatgaa atcacagatc tccgtagcat cagtgtaaa
1261 ggtgcagagc gtgttaattac ctgaaatg gaattcctg gatcaatgcc acctcat
1321 caagaatgc tggagaatc tgaagacat gaaccttga cccaagttc aagtggaa
1381 acagcagagc acagtctag catctcacc agctcagtg aaaaacagtg gtcagtcag
1441 tcaccactcg tgcataaga ca

FIGURE 3A

Unmethylated 163 BP

ggatttg gatgtTGaga aTGt FUM 21 BP AT 60

C Aaccatcca accAaaCAa RUM 21 BP AT 60

Methylated 142 BP

FM(2) 19 BP AT 60

RM(2) 19 BP AT 58

External primers 266 BP

gtaggagggtttattt ttgtt EXT (2) F

aattacattttccaactactc EXT 4 (2)

FIGURE 3B

208270" 6456500T

Homo sapiens serine protease-like protease (nesl) mRNA, complete cds ACCESSION AF024605
(SEQ ID NO:94)

```

1 accacgcgca gaaccagcg agggcagag cactctggg tccccctcc ccttcctatc
61 ggcgactccc agatcctggc catgagagt ccgcacctc acctctccg cgcctctggc
121 gcccgggctc tggcgaagc gctgccgctg ctgatggcg aactctggc cgcagagcg
181 gcgctgctcc cccaaaacga cagcgcttg gaccccgaa cctatggcg cccgtgcgcg
241 cgcgctcgc agccctggca gttctcgctc ttaacggcc tctcgltcca ctgcgcgggt
301 gtccctgctg accagagtg gttgctgacg gccgcgcact gcggaacaa gccactgttg
361 gctcgagtag gggatgatca cctgctgctt cticaggcg agcagctccg ccgagcagat
421 cgctctgttg tccatcccaa gtaccaccag ggttcaggcc ccacctggc aagcggaag
481 gatgagcag atctcatgtt gctaagctg gccagggccg tagtgcggg gccccgcgtc
541 cgggccctgc agcttcccta ccgctgtgct cagcccgag accagtgcca ggttgctg
601 tggggcacca cggccggccg gagagtgaag tacaacaag gcctgacctg ctccagcatt
661 actatcctga gccctaaga gtgtgagtc ttctacctg gcgtgtcac caacaacatg
721 atatgtgctg gactggaccg gggccagagc cctggccaga gtgactctgg agggccctg
781 gtctgtgacg agaccctcca aggcatacctc tcgtgggtg ttaccctg tggcttgcc
841 cagcatccag ctgtctacac ccagatctgc aaatacatgt cctgatacaa taagtacata
901 cgctccaact gatccagatg ctacgtcca gctgatacag atgttatgt cctgtgatac
961 cagatgcccc gaggttccat cgtccatcct cttcctccc agtcgctga actctccct
1021 tgtctgcaat gttaaacct ctgcgcctt ccacacctt aaacatctcc cctctcacct
1081 catcccccca cctatcccca ttctctgctt gtaactgaagc tgaatgcag gaagtgtg
1141 caaagttta ttccagagaa gccaggaagc cgtcatcac ccagcctctg agagcagtta
1201 ctgggtgcac ccaactgac ttctctgccc actcccgct gttgacttt gggaagcca
1261 agtgcctct ctgaacctca gtttccatct ctgcaaatg ggaacaatga cgtgcctacc
1321 tcttagacat gttgtgagga gactatgata taacatgtgt atgtaaatct tcatgtgatt
1381 gtcatgttaag gcttaacaca gtgggtggtg agttctgact aaagttacc tgttgtcgtg
1441 aaaaaaaaaa aaaa

```

FIGURE 4A

HOX A5 Promoter 3' to 5' AC004080 (SEQ ID NO:96)

16321 accaagagag actgugagag gugcggcagag aagagagggg ggacccagag cggcgtcccc
16381 gCGgtCGcgt ggattagaa aaagctggc ttaccatga ctatgtgca gcttgCGcat
16441 ccaagggtag atctggggt gggCGgggCGg CGcCGgggtcC ggctCGctct gCGcaactCGc
16501 ctgctCGctg ctggcagggg CGctctctcC ggctcCGgac gcCGgtgccaa ccccctct
16561 gctgctgatg tggtgctgc CGgCGgtCGgc CGaagCGcCG ctggaagtgc ttaggaagt
16621 ttccCGcCG tggtgctgt CGctgcCGgg CGaagggggcc aCGgCGgaagc agggcagCGg
16681 atCGggctga ggagagtgCG tggaCGtggc CGgctggctg taactgggct CGgCGggCGc
16741 CGcCGctgCG ctggcagCGgt agctgCGggc GCcctcCG gaagccaaagt ggcCGgaagcc
16801 CGaagCGgcCG aCGctgagat ccatgccatt gtagcCGtag CCGtaacctgc CGgaagtgc
16861 gctCGcCGaag tccctgaatt gctCGctcac ggaactatga tctccataat tatgcaactg
16921 gtagtCGgg ccatttggat agCGaacCGca aaatgagtt acaaaataag agct ttg
16981 tttttgata tggtgtgctg attgtgct CGcgtCGgt tgtyCGctcta tagcaacct
17041 gcacaattta tgatgaatga tggaatgac tggaacatgt acttggttc ctcctaCGta
17101 ggcaccctaa tatgggtgaC GacttCGaat caCGtgctt tgtytccag tCGtaaatcc
17161 tgctgatga cctctaagag taactCGtg cactaataag ggagttyggt ggaagCGaag
17221 gggttgCGc GCcCGccccCG ggCGcgtgc CGcCGcaggt tgCGcCGctt cagcCGgact
17281 CGaagCGccac cCGctgagag cagggctcat CGcccaagct cCGaCGggg gtcgcaaggg
17341 cCGgggtCGa attgaagtta cagcccatga tggaataat attgcatctc cctCGcaagt
17401 ccattagat gtaccaattg ttagcgCGtc agctgCGat CGcCGccccCG gCGaagatgc
17461 agaggtatg

FIGURE 5A

Complement- 5' to 3' Promoter region analyzed: nts -97 to nts -303

(SEQ ID NO:97)

ccaatccctct gcatcctcgc cgggcgcgcgc atcggcagct gaaggcctaa caatggtac atcctaattg aactgcgagg gaaatgcaat
 aatctttggcga taatgggcttg taatcctcaat tcgaaccgcgg cccttgagc ccccggtcgg aagctgggcg atgagccctg ccttcgcgcg
 agtcgggctg aaaggcgga actgucggcg ggcaagcgcgc cgggucgcgc gcgcacaccc. cctcgccctcc acccaactcc
 cctattaagt caagggtta cctctagagg tcatcagggcagygatttaagaa ctggacaaca aaagcagcg attcgaagtc gtaaccacata
 ttggtgacctacgttaaggagg ggggagcgaaggg agaatgggcga gtcattcca taatcatca taatgtgyc aaggtgtgcta tagatcgacaca
 aaagacgcgc agccacaatat caagcacaca tatcaaaaaacaa agct cttaatttgt aaac aaatgg
 ccgggactac cagttgcata attatggaga tcatagttcc gtagatcgagc aatcagggga ctcgcgagc atgcactcgc gcaagtacgg
 ctacgggctac aatggcatg atctcagcgt cggcgcctcg ggtccgggc acttggctt cggagagcgcc gcccgagct aagctggcag
 cgccagcgcg ggcgcgcgcg agcc caagtrcca cgcaactctcc tcagcccgat

FIGURE 5B

UnMethylated 213 BP

tTGgtTGg aagtgtgTGg FM 18 BP AT 56

gtatTGtg attTGaagtT Gtat

aataC AacttCAaat caCAtac RM 22 BP AT 56

attTGgtTGg aagtgtgTGg FM 18 BP AT 56

gtatTGtg attTGaagtT Gtat

aataC AacttCAaat caCAtac RM 22 BP AT 56

attTGgtTGg aagtgtgTGg FM 18 BP AT 56

FIGURE 5C

Homo sapiens 14-3-3 sigma protein promoter and gene, complete cds.
ACCESSION No. AF029081 (SEQ ID NO:102)

```
1  ggatcccagc ctgcccctcc actctctcc caagccaggt cccggcatgg gtgggttatg
61  ctcatgtctg caatacttga aacgggttta ttaatgtctg gtattttga caattttata
121  gacctcttt ctacatagtc tttttaaat ggaagagaaa aatgtcagcc acattactgt
181  ctgtgtatgt ccaggtgaag gttatcaga aggtctggtg gtttaataa gtttatcca
241  agagaccctc tggctggaaat gaatgaagt gtgtgtgcat gtgtgtgtgt gttcatgtgt
301  gccctgtatg aatgtggctg gctccagat cccctgggct gccccctgcc ccatcccctt
361  tgaatatcag aagcaactctg agccaagggg acagggggca cgtgcactgg tcacgagaaa
421  accctgggct cccaactggg ctacgccag cctctatct ttcctcttc tatgacttc
481  agacagccag tgtctgggga ctctgccact ctaccccag ccctaccac cagcccaccag
541  gtgaggtctc cagctyggac ctgccagac aggtctagcc tgggcgttgt ggttgggtg
601  atggtcttgg ggaagcgctg ccatactaca agccacacc cctcctctga gctctgaata
661  tgggacccag tggcaggagc tggaagacaa gttgtttctg ccaaacggga cctccatcca
721  gaaaaaagga agaagtgtca ggttgggcca agaggcaagt gaaggttggc ctgagttctg
781  gccggaact cagagatgtt ttctcctctg ctggagctg tagtttcta tcaaataga
841  tattgtcca ccatccccc ccttggccct tcaagtggc tgaagcctt gaagtgtaca
901  taggaagtc ccagatcttg cccttctcac tccagagct agtgtcaca gacagctgg
961  aatggcagcc acagaggttc cctctgaga aacagctca cccagctc agggccctgg
1021  gcatcactgc agtggccctg ggaagtgagg aagaagctgg ctagaaggag gggctccac
1081  ctaccttta ttaagccag tatctttgt tcctgcttgt aataaaactt cagttataa
1141  gatttgctt gctttgttt ggttttgtt tgctttcct ttgtgaggc cccaactgg
1201  agccctctgt tcttcagac aaatttgtt cttcctggg gactgttga gaagcaggc
1261  agcccagtga tctgtctaca ttccctca cctgctgga gctctgccg ctgaggaag
1321  agcagagagg gctgcgctg agcccctat ggcacgtgaa aagagccat cctgtccct
1381  cttgtcccc tccacctcc cctgcctcag gggcttgag accccaat ctcttcct
1441  actgccttc cactcagat cccaatgagt gccacgtaa gaaatgttt gagacagtag
1501  atccagttt gagagccgga gcttccctgg ctaccactc caactgggc accagggccc
1561  agccagacaa ctcataaac tggccacct ctctgtatc tccctcagg gaacacctgt
```

FIGURE 6A

203210° 6'56.500"

1621 caggattttg ccatctcctg cacagcctga ggggagctaa caggcctctt tgcagaggt
1681 tagctgttaa gaccgtttct tccctgtcgg ccagcactgc ccgtccctt ccacacacca
1741 tctcatcttc atcgcatgcc tcgccaaccc catgagccc gtccatctgt ctgtgtgtg
1801 gtgcggtg tggtctgtg gtgttaggt ctccaggac tccccgtaa gcagaaggt
1861 cgggatatag ggcgaagcta aaagcccag cccattgtg actaggaag taagtccg
1921 cagagcagct ctccagctgg aagaagagt ggaagtgag gctgggaga ggatgcgaa
1981 cctgccctga ggtgcttgg tctgtctg tgggtcctg gtatgcagg gccaccggtc
2041 actaacactc ttatgtcctg gcttctgtc ccgctgagc ttctctcac ccgccgttt
2101 tctctcctgc ttcaattgct gctgcctaa ccttggccct tctctcggc agagcaggt
2161 gctgtggcag caacctccc caccaccgg cccctgcagg ccgcctccct cctccaggc
2221 ctgtctaaccc tctctcttct ccttcttgc tgtcctgcg gggatctcca gtgtgtcgg
2281 gggcttaag acctccttag gaccgtgtct ccttgcctt ccaggaaatg cctggggga
2341 gccaggcacc cggcacctcc acctgcctaa ccttggccc taggaccca taggggcag
2401 acaggtctg cccccagcc tggccggcct gtgtgtctc taggaccca taggggcag
2461 gggctggcct cttgtcccca ttcccgctcc atgccggcca gagttagaa agccatacg
2521 caagcagcca tcagcacaat aatgtgactc taagtata atctggcct agagctgac
2581 gacttccct tcccgattt gtgagtgtc aagactaga atctggcct agagctgac
2641 cctcaccct ctcatcag gcatagccat atgacgtgc tgaacaagt tgtgactgt tctaagaca
2701 gtctgggtg ttgatgtg acggtctgtc caactccac cccaacctt ccaccaggt
2761 actgctga tactgtccc acggtctgtc caactccac cccaacctt ccaccaggt
2821 agttagatg taggaggtt gcgtgccgc ttgtctag gcactgagg accaagctag
2881 ccgtgcacag ccccatcac ctcaagggcg taaagaaag agctgagcca agaaatca
2941 gctgagcca gggctgggg ttgccatac attgctgtc tgytgcgac ttacttgg
3001 aataaagat tccctcttc ttgccatac attgctgtc tgytgcgac ttacttgg
3061 ggcacaggga tgggacctg agtggcggtg tggaacat ggtccccc cgctccagc
3121 ttcttccag ctggccagt ctgtcttga tcccttccac tctgccctc cagaactctt ggttcaat
3181 cacagaaaaa gtgctgaca tcccttccac tctgccctc cagaactctt ggttcaat
3241 ccagacacca cccagccta gctgacctt ggttctgat agttccagt gcaggctgag
3301 acagaggtt taactcagt ttgggactg cataccatg aactgagccc agccaggt
3361 aacgatctca tgaacctc tctctccca gtgtgtcac tacatcaaga tacacacatg
3421 tgcatacact gtactatgg ctaaaaaaat acgtaccgt accgttcagc aagggcttgc

FIGURE 6B

3481 cgagtcgccg gcccatcttc tcatcttaac ctgtgaggag gatgatgtca gcccttttac
 3541 agatgagggg actgagactc aaggaagaaa caggagctgc ccaaggtcac ccagctggca
 3601 aagcagcaaa tcccagatcg gaacctgac tctgccccg gctctgagcc atctgcacta
 3661 cccaaggaat gaatacagcg gtggaggat gagatcttgg agaacccta aaatlagaga
 3721 atgtcatagc cagtagaggg ctagagltg atctggcca gccctctgt ttactgatg
 3781 gagaatltga agcccaaggg caggaaggga cctggccaag gccttataac agagctggga
 3841 tgcagtccca cacttgacc tcaatccat ctctcccat aaatctgca ctgtcttag
 3901 actgactggt ttatagltg ggatactcta aacagcagtg ccttcaagag aaaagaatc
 3961 agaactacga atcaactaaa agtaatgtaa gctactctgg gcacactgcc tatgggtcg
 4021 ccctgtcca caaggaagca caaataat taataaat taatalccct tcccaaggt
 4081 aaccagtaaa gtaagctctt ggctaggtaa ctgactctt gtacaact agccagtgg
 4141 aaaagtgct agagcttctt ctggccacct gttaatltg atcattccaa gacagaaca
 4201 ttcttagga agtcttctt agaattacc tgggtccct tgggtccct cccactgcta tcagagccct
 4261 gtcctctgtc ctcaatggag gtagagagca aatgltgct gcttcttca tcacaacct
 4321 tcaagccta ttattaccag ctaagaaga ttggttact atgggccaga gccctgagc
 4381 ctgctgtag aatgagtgt gtacagaggg gtgggaggt agcaggcaga atgaggaag
 4441 ccccttgag ctgcaacccc agctcctgtc ctgtgactc agacagctga ctgtgagct
 4501 ccattgccct ccagggcctg ctgcctcctg cccgtctgag ctctgtaact tgggaatgg
 4561 aggcccaag gcaagggag gtacctgaga caggaactga gtcaggatca acagggcaga
 4621 gcgggcagga ggtatcaggc agcctggctc ccagatgcac ccttgagctc cagcaggga
 4681 ggagtaggaa tgaagggtct tccttgccct tgcctatggc tatgcggagg gcgtgaacca
 4741 ccaccagtc ctctgctta agtggcggga agcaaatgt cccctccctg actcagctc
 4801 caaagttcct gggtctgctt tccaggttcc cagtgtcctg ggaatccag cttccccag
 4861 gacttggga agccccgctt ggaatgactag tacaatgaa gggccctgag gttccagac
 4921 ctgctgaggt cacaggaata tccttagctc agctgtcca acccagggcc cacagctgc
 4981 atgtggcca gaatgctt gaatgcagcc caacacaat tagtaactt tcttaaaaca
 5041 ttatgagatt ttttgcaaa tttttttt tttttagct catcagltat tggtagtgtt
 5101 ggtatatatt atgttgccc caagacaatt ctccaatgt ggccaggga agccaaaaga
 5161 ttgacacgct ctgtcctaga tggagaggaa ggaggcagtg ctgagcacat ctggccattc

FIGURE 6C

5221 atccatctgg agagagaag ctatggcga actgcttctt ctccctgta gacaccagc
 5281 tgggaagtc tggccttgg taagtcctgg ctggggtc ttcccatlt cacagaacct
 5341 aactctatgt tagtgccttg tgagtatagt ttgatacata taaagtgac gggatlttt
 5401 cacatgataa taatagttgt catctggccg ggcattgltgg ctatgcta taattcagc
 5461 actttggaag gctgaggcag gtgatacact tgaagtcagc tgtcgagac cagcctggcc
 5521 aacatggtga aaccacatct ctacttaaaa aaaaaaaaaa tacaanaat agctggltgt
 5581 ggtggtgcac cctgtaatc ccagctactc gggaggtga ggcagagaa tcaactgaac
 5641 ccaggaagtg gaggtgcag tgagctgaga ttgtgccact acactccagc ctgggtgaca
 5701 agagcgaac tccgtctcaa aaaaaagaa aataataata ataagltg ccatccattc
 5761 tactgtgct tccattact cgtgtaacc tcaaatgcc aacgtataa gaattacat
 5821 tgaggtcac agagctlaaa tcaactggcc aagggcaca acagctata gaattacat
 5881 taggcagtc gattccaaag atactagct attctgtatc tcatagaca acaatacata
 5941 ttcaactttt tgtgttgt ttgtttgag acgagtcct gctctgtcac ccagctgga
 6001 gtgcagtygc gccatctcg ctcaactgca cgtccgcct ccggttcaa gcgattctcc
 6061 tggctcagcc tcccgaagtag ctgggactac aggcattgyc caccatggcc ggcataatt
 6121 ttgtatltt agtagagaca ggttttctt ggttagcca gaatgtctc gatctctga
 6181 cctgtgata caccacctc agctcccaa agtgcgtga tgacagycgt gagccaccgc
 6241 gtccgaacct tattcaatat ttataattg gagagaata gaaatcaaa agggcaggt
 6301 gtagtgact acacctgtaa tcccagcact ttgggaagcc aagcagagag gattgtga
 6361 acccagaagt tcgagaccag cctgggcac atgtgagac cctgtccta caaaaatac
 6421 aaaaattagc tgggcgttgt ggtgagcacc ttattctag gaagctgag caggaagac
 6481 acctgagcc aaggaagttg agactgcagt gacgtgtgat cataccactg tactcagcc
 6541 tgacatcag agtaagacc tatcttaaa aaggaattg agaagaaaga aatcaagag
 6601 gaagcaaat cactcaactc cactaccta agataccctc tagaagttgg tatttaagt
 6661 tggttcctat tgtttctgt gtcagttctc tgattgagc aaaatcttg ggcgtcaaa
 6721 cttaaatcc ccttacttc cttgaaacc ctgtagcatt agccagaca tgtccctact
 6781 cctccttgt gcaagagaa gcatctcgtc ttgtgccc agagtcttg cctaagcctc
 6841 cctccagag ggaagatgag tgttcagaca ctcaagtag ctgggggaga cacagcctg
 6901 tgaattatc ctggtcaac tattaggtcg gcagaatccc agtgaagga gccctacctc
 6961 tgagcccat ctaagcttg gctatgggtg ggcagataa gcaaggaatcc atccctatag

FIGURE 6D

208210° 6456500T

7021 gctcaatgac aacaccctta ggtgaactc ttgatgaaac ttgaggccag ggtccggca
7081 agcagggaaa gaacgttggc aacagagtc tccatctctg aggactctgc cagggtcag
7141 agatggggca atgtcaaaa ggaaggagaca ggcagggcac agtgcctcat gcccatac
7201 ccagcacttt gggaggtga ggcagagaga tcgcttgagc ccaaggattt gagactgcc
7261 tgggcaatgt agtagatct gctcttatt taataaaaaa aaaaaggaaa gaacaqtaa
7321 acttctgaga aacaggtggc gggagggatc acgtagctgg aattgctgcc ccataaaca
7381 gaatggtatg tgtcactgcc acctccctt ctcatcttc tcttcccca ggttgcctagc
7441 gtcccccctg gggatcaaac tggactgctt cccagctca gacagagagc agtctgaqtc
7501 aggcaggaaa gttggacagc cggggagctg gacccaccc tctgtagcc ccgttgtac
7561 ctgatggcat gtggcttga gagggcaggt gacctggct ggaaggaaa atgtgtagt gatggaaat
7621 ctcaacaag tggcaacagc ccaccaactt gaaaggaa atgtgtagt tcagagctg
7681 gtgtccaaca aacctactgg gtgactaat acaaggctg ggtggagct tcagagctg
7741 ctgtttaaac attcattaa gcggcactt gaaagctgcc acctgcgat tctggagct
7801 cagaggggac cctgaagggg aatgagcct ggaagtga accatctca ggtagactga
7861 gaagagcct ggatctcat tccaacaca gtcctgagct catagttcag aggcctcaat
7921 gggagaaaag ctaaaggag aggttcaga aaggatttc aggnaattgg tggctatgt
7981 acttgagca aatccaccc ctctcaga cttagtgtc ccactctat ggtcctgtt
8041 gtgtcacaga gacatgttgg ggtataat cgatcgtgat atgaaatgc ttggaaact
8101 ccatggccct acctaacat gattatcct cactgaacc aagggggaa gttacctgc
8161 aggattaga accccatcct cctgaacct tatggctct gtcgagctg aagcagccag
8221 gggctaagc cagtccttag cccctggaag ggcactgtga aagtgatct gatttgaaa
8281 gccgttctc gatgtggca gccatgtgat gccagccccg aacaaggag ggcagcctg
8341 agcctgaaa gttggcagtg cagttgggc ccaagccag atttctctg ctgactgtc
8401 tgatgatca cccccacatc ccagccttt taaccttact gcagagccgg aaaggtgtg
8461 gggaagagag gagagggag ccagccaaaa ggcagggcaa gagcaguga gacacagat
8521 ccttctctg gcctggccac cagttagccc gccggccgc tgtgtgtccc cagagccatg
8581 ccggcatgg tccagggcag cagttagccc ggcggccgc tgtgtgtccc cagagccatg
8641 gagagagcca gtctgatcca gaagggcaag ctggcagagc aggccgaag ctatgagac
8701 atggcagcct tcatgaaag cgccgtggag aagggcgag agctctctctg cgaagagcga

FIGURE 6E

208210" 6456500T

8761 aacctgctct cagtagccta taagaacgtg gtggcgcc agagygctgc ctgagagtg
8821 ctgtccagta ttgagcagaa aagcaacgag gagygctcg aggaagaagg gcccgagtg
8881 cgtgagtaac gggaagaagt ggaagactgag ctccaggcg tgtcgacac cgtctggc
8941 ctgctygaca gccacctcat caaggagggc gggaacggcg agagccggt ctctacctg
9001 aagatgaag gtgactacta ccgtacctg gccgaqgtg ccaccggtga cgacaagaag
9061 cgcatcatg actcagcccg gtcagcctac caggagcca tggacatcag caagaagag
9121 atgccggcca ccaaccocat ccgctgggc ctggccctga actttcgt cttccactac
9181 gagatcgcca acagcccgga ggagggcatc tcttgcca agaccatt cgacgagcc
9241 atgctgac tgacacacct cagcgagac tctacaag acagaccct catcatgag
9301 ctgctgcgag acaacctgac actgtgacg gccgacaac ccgggaaga gggggcgag
9361 gctccccag agccccagag ctgagtgtg ccggccacc cccggccctg cccctccag
9421 tccccaccc tgcgagagag actagatgg ggtggaggc cccaccctc tccctagc
9481 gctgttctg ctccaaagg ctccgtgag agggactgg agagctgag ccactygg
9541 ctggggtcc cacttctt gcagctgtg agcgaccta accactgtc atgccccac
9601 ccctgcttc cgcaccgct tcctccgac ccaggaacca ggtacttct cccctctt
9661 tgcctccctc ctgcccctgc tgccttgat cgtagaat gagagtgtc ccgctgtg
9721 gctgagaact ggaacgtgc agggctgga gatgggtg tgtgtgtg tgtgtgtg
9781 tgtgtcgcg cgcgccagt caagaccgag actgagggaa agcatgtct ctgggtgta
9841 ccatgttcc tctcaataa gtccctgt gacctctc ctgtctct tccagttct
9901 ggcgatygc tgggagtyg actgaaatc gactagaga ccctgactt ggaactctga
9961 gttaggccc tgaactccct agtggctca gtggccgca cgaagactt tggtccagg
10021 tgaggccgg gtc

FIGURE 6F

H.sapiens Wilms tumor (WT1) gene promoter. ACCESSION No. X74840
(SEQ ID NO:103)

```

1 agcttcagc cccagcccg gccagccag tacaggagc cggactgca ccggttgctt
61 ccctccgctc gcgcctggc gtcccagct gcgcctgc tgcctctcc tggcgccct
121 gggatttat acgcacctc gaacacgct ccgctccgc ccccgttct tctcctggc
181 tagggttgt ttccaatag atactgact cttagaga tccaaaacc aaaccaaac
241 acccctacc cgcccaaac acctgctcty gggcgcggyg gtcgccaac agagactaga
301 cgaaggagt cagattagc gaantctcy agtcccaaa gatcgaca ctaactcgy
361 cccgtggcc gatggagtt ctccctact cactccttg tcccttaac tggctccgc
421 ctctgtca atcactgag aaccagatg gtatcctga ccaggccac aggcagtgt
481 cggcggagt gttccaggag ttaccgctc ctgccgggtc tcatccaa accctccct
541 tcaccctcc tccccaact gggcgccag atgtccgyc cgyaatata gcagcttg
601 ggcgtttgc caaggttt ctccctct ctccctct aaactagcy ctgtttcc ggcctaacy
661 tagaagaat agatatctc cactggaag ggaactaag tgcctgac tccaattta
721 gtaggcgyc aacgcttcc gcctggcgca aactcacca agtaaacaa tactagcga
781 tcgaatacy ccggtctat aactggtgca actccgyc acctcaacta gggagctcy
841 cttcagtc cgaccttg aaccacaaa gggccactc ttcccaagt gacccaaga
901 tcatggcac tccctaccc gacagttcta gaagcaagag ccagactcaa ggttgcaag
961 caaggtata cgttcttgg aagctgact gactcttcc tgcgttcc tgaagtccc
1021 gccctcttg agcctactg cccctccct caaacactc tttagatla acaacccat
1081 ctctactcc accgattcg accctgccc gactcactg ttacctgaac gactctca
1141 gtgagacgag gctccacac tggcgaagc caagaaggyg agtggggg aggttgtg
1201 cacaccggc agctgagag gcgtgttgg ttgaagaga ggtgtctcc gagaggagc
1261 ctccctcga cccgcctca cccagctgc gagggcgcc ccaaggagca gcgcgcgtg
1321 ctggccggy cttggctgc tgaagtgaat gagcgccga gctcctggc tctcctct
1381 ccccgcgcy ccgccccct ttattgagc ttgggaagc tgagggcagc caggcagctg

```

FIGURE 7A

ROBERTO "BXS500T"

1441 gggtlaagag ttcaagcag cgtccacacc cgtgggtctt ccgaaccct accgctgtc
 1501 cgtccccc ctcccgcc tccctccac ctactatc acccaaccac ccaccagag
 1561 ccggaagc agccagcg ccggtccccc gccgtctct cgtcgatc ctgacttc
 1621 tctgttga ggaaccggt tccactgtg tcccgagcc ggcgttcag cacacgtcc
 1681 gtcctggcc tgggtgcta cagcagccag agcagcagg agtcgggac ccggtcgca
 1741 tctggccaa gtaggcgc gccagacca gcgttgaac ttcagggc cgtgagcc
 1801 gcggggtc cgtgtctgag cctcagcaa tgggtccga cgtcgggac ctgaacgc
 1861 tgtgtccgc cgtccctcc ctgtgtgcg gcgtcggtg tgccctgcct gtgagcgc
 1921 cgtgcagtg ggcgcggtg ctgacttg cgtcccggt cgttcggt tacgtgtc
 1981 tgggcgccc cgtcccgca ccgtccgc cgtccccc gccgcgcgc cctactct
 2041 tcatcaaca gtagccgag tgggcggcg cgtgaccga cgtgagcag tgcctgagc
 2101 cctcactgt ccaatttcc ggcagttca ctgacacag cgtgacctgt cgtacggc
 2161 cctcgttc tctccgccc agcagcgt catccgca ggcaggtgt ttctaacg
 2221 cgtccacct gccagctgc ctgagagcc agccgctat tcgcaatcag gtaagttag
 2281 ccgggagcg cccta

FIGURE 7B

208270-625500T

Estrogen Receptor (ER): Homo sapiens estrogen receptor beta gene, promoter region and partial cds (SEQ ID NO:104) Accession Number AF191544

1 actatagggc aCGGctgtgc GaCGggccCGg gctgtatlg atagatgcat ttcttcacc
61 ctcaacctatc ttttctgcg tgttggtcta tgttgaat tccttcata CGgtttccat
121 ttccagagat atctgttaa caagtarata ccaccaatg aagctgattt tttttttt
181 tttttttga gacagagtct CGctctgCG cccagctgg aatgcagtgg CGCGatcttg
241 gctcaactgca acctcCGcct cccatgttca agCGattctc ctgcctcagc ctccgaagta
301 gctgggatta ctggcatgtg ccacCGGctc cagccaattt ttgtatttt aflagagaCG
361 aggtttcacc atgttggtca ggtgtgtctc aaatccctga cctCGtgatc cactgcctc
421 ggcctcccaa agtctgaga ttatagtggt gagccacat gcclygccat gaagctgatt
481 tttttaacc atcatttaac atttctca taaglytgc ayyaagaaga gcatatggg
541 actgggtact ttgagagacc ccagagacag agacagggag gctgagattg gcatgtgtc
601 tgctgcagtt attgccagc Gacacactct ttcCGttccaa actaactct ctgccacaag
661 gacagggaga ctctgcctt caacctgaga gaaaccaaga ctctcagct taatgaaat
721 tggacttagg gtggggcagt ggaactttt cacagctatt gttagctga tgaagcagat
781 gctctccat cttggagcc tgtcttcatt acctgtggac ctcatctta tcaaccaga
841 gcaacttgC Gtctctctat ttggctaaa caccaaaacag ctgaggtctg tactgtaaa
901 cttccctcc aatgcccc cctCGtcttc ctctattaga gatctgatac acaaccctca
961 aaacacatgt ccctatgcc acctgagtag atggtttgat gattaatag gcacagatgt
1021 gacactgggg ggtctcaca atgacctgtg ggtcacatgc tacttccct ttcatltta
1081 tcagcaacag ctgccttaaa gccaglttaag actgtgtctc tagtctCGca ccttgggct
1141 cctgtcgggg tgggtgaggg gaacacccca ttaagctggg ggaactgggg ctgccaccag
1201 ggggCGGag gggccttCGc CGagaagag gggtyggcag gtgcctcag CGgagaaggg
1261 CGcCGtggc Ggaaggacag gtctccCGg tggcaattca agtgaattCG aggaagtaac
1321 tggatcttt gatctaaCGC Gaaagacct cccagtggac tcttggggc tgaagaacca
1381 ctccctccac ctctaagcca CGgctttgcc actccagggc cCGaggttaC Gtttgcgt
1441 ggggatttga caaacccaa gacctctgg ttccaccat ggtctctag aatcagacat
1501 ctgttctgaa tgacaattat gtgagtcagg ggtgaggaC GtatacctCG aagtgtgtc
1561 cccagactgg ctgtatcagt gtCGgcatcc cccagagacct ggttgaat gcatattctc
1621 aggccctact ccagacctct taatctgag actgggctg CGgggagCGc catctgtgCG

FIGURE 8A

2

Unmethylated 288 BP

G ggtTGtttttg agatTGtTGg FUM 21 BP AT 60

TG agttgTGATG ggttttg

ccaaaacc CAtCAcaact CA RUM 20 BP AT 58

AAAAAAAAAAAAAAAAAAAA

AAAAAAAAAAAAAAAAAAAA

FM 18 BP AT 60

CGgggaaaag taCGgttCG t

AAAAAAAAAAAAAAAAAAAA

RM 20 BP AT 60

FIGURE 8C

FIGURE 9A

HIN-1 SEQUENCING PRIMERS

Forward: 5' [REDACTED] 3', 23 bp, 56 (SEQ ID NO:111)

Reverse: 5'GTGctttTgtttGtATGtttGGTG 3' (SEQ ID NO:112)

Reverse: 5' [REDACTED] 3' 60, 26 bp (SEQ ID NO:113)

HIN-1 External primers 209 BP (-213 to -39)

Forward (2): 5'-GTTGTTAAGAGCAAGTTT- 3' (SEQ ID NO:114)

Reverse: 5'-CACCGAACAATACAAACAAACCAC- 3' (SEQ ID NO:115)

Primers for Methylated HIN-1:

Forward: 5'-[REDACTED] 3', 24 bp, 60 (SEQ ID NO:116)

Reverse: 5'-[REDACTED] 3', 22 bp, 62 (SEQ ID NO:117)

Primers for Unmethylated HIN-1:

Forward: 5'-GGTATGGGTTTtTATGTTGTT-3', 24 bp, 62 (SEQ ID NO:118)

Reverse: 5'-CAAACCTCTATATACCAATCCTCA-3', 25 bp, 68 (SEQ ID NO:119)

FIGURE 9B

SECRET

Nucleotide sequence of RASSF1A promoter (SEQ ID NO:121)

[illegible]

FIGURE 10A

SEQUENCING PRIMERS FOR RASSF1A

External Primers 294 BP

gggagttctgaaagtctcatctgagtc

RASSF1 ext. F

accccttaaacctaaccccttc

RASSF1 ext. R

Internal MSP Methylated 160 BP

gtctggtcatctc gtctgggcctc

RASSF1 FM (2)

ccacccacccctaacctaacctc

RASSF1 RM

Internal MSP Unmethylated 180 BP

ggttgctattGgttgagtc RASSF1 FUM
ctacaacctttacacacaca RASSF1 RUM

FIGURE 10B

Multiplex Methylation-Specific PCR

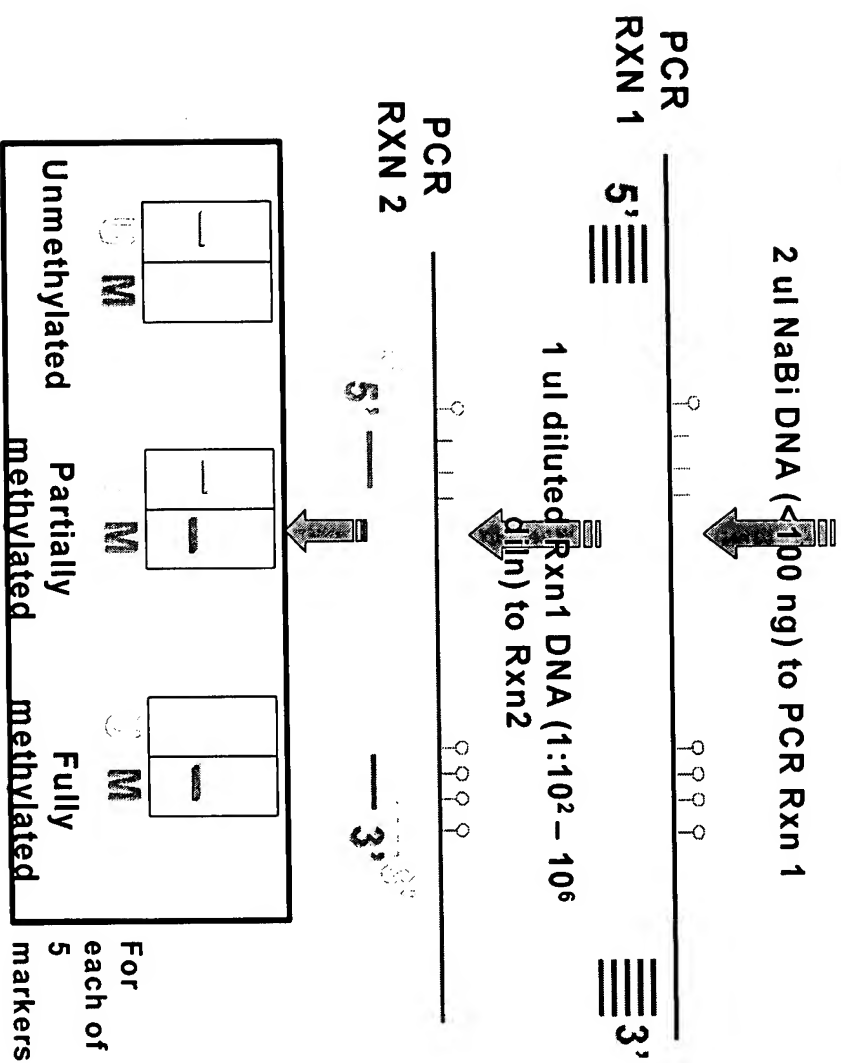


FIGURE 11